

August 28, 1985

TO: Memo to File

FROM: Dave Cline, Reclamation Hydrologist *DJC*

RE: Site Tour of Ideal Basic - Devil's Slide, ACT/029/001,
Morgan County, Utah

On August 26, 1985 Rick Summers and Dave Cline of the Division performed an onsite review of the Ideal Basic operation to assess sedimentation and drainage control issues pursuant to Ideal Basic's permit application. Personnel from Ideal Basic included Chad Green, Dan Sommers, and Gordon Stevens. A brief meeting in the office occurred before the field review. Ideal Basic indicated they wanted to be sure the Division approved of methodologies to be used to determine runoff from the quarry area. Ideal Basic also informed the Division of Oil, Gas and Mining (DOGM) that new topo sheets were being prepared from recent aerial photos, that the Soil Conservation Service will assist Ideal Basic with test plot and plant surveys in late September or early October, and that the Morgan County agent will be helping with the soil survey.

The field review included a brief tour of the entire quarry operation with the emphasis on Quarry #3. The dust dump piles were also visited. The ephemeral drainage located to the west of Quarry #3 has been filled in with quarry material. Ideal Basic has attempted to provide drainage through the channel by dumping large rocks (estimated to be 1-2 feet in diameter) in the bottom of the channel and grading up with finer material on top. No engineering design work has been performed to verify the capacity of the "drain" and correlate the value with the peak flow of the contributing watershed. DOGM suggested that Ideal Basic contact a hydrologic consultant to provide technical advice on the selection of the curve number to compute runoff volumes and flood peaks.

Road drainage consisted of berms along the roads; there were no ditches or culverts on any of the roads. Road drainage, via the berms, appeared to be adequate and DOGM requested typical cross-sections of the roads depicting the berms be submitted as part of the drainage plans.

A sedimentation problem was observed in the area below Quarry #3 adjacent to the Weber River. Quarry material has been pushed over the edge of the pad and over the banks of the Weber River. A few large boulders were located between the present waters edge and the toe of the waste rock but did not appear to be adequate to retain the material during a precipitation or flood event. The site of the old sedimentation pond was observed to the east of the waste rock material. The pond was grown over with vegetation and obviously non-functional.

Three dust dump piles were visited on the permit area. The oldest (inactive) had a small amount of soil substitute (quarry material) on top and Ideal Basic indicated that this site would be incorporated into a test plot. The largest active dust dump site is located at the head of an ephemeral drainage between Quarry #2 and Quarry #3. An earthen dike has been constructed across the drainage below the dump pile. The primary purpose of the dike is for road access to Quarry #3 but also functions for containment of the dust material during a precipitation event. Evidence that the material has been moving down the channel by water was obvious. DOGM suggested that Ideal Basic calculate the volume of the impoundment to insure containment of the 10 year-24 hour precipitation event. The reserve dust dump is located north of the plant. Ideal Basic indicated that this site was used only when access to the large active dump was inaccessible. A small berm was located below the dump pile. No evidence of material moving outside the containment area was observed.

The following points were discussed in the office following the field review:

1. The selection of the curve number would be critical in determining runoff volumes and peak flows. Ideal Basic stated very little runoff occurs and feels percolation tests would be beneficial to help select a curve number. DOGM indicated that it was not familiar with correlating percolation test data with curve numbers and may be of little value. Ideal Basic indicated they would contact a hydrologic consultant and DOGM offered to help research curve number values for this type of disturbance.
2. Road drainage did not appear to be a problem. No evidence of significant erosion was observed on the roads. Ideal Basic stated that berms had been used rather than ditches or culverts because the mine site is always changing due to the quarry operations. DOGM requested that Ideal Basic submit typical cross-sections of the roads depicting the berms.

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3. DOGM suggessted Ideal Basic use existing depressions for catch basins where possible.
4. DOGM requested that Ideal Basic calculate the volume of the impoundment below the dust dump pile between Quarry #3 and Quarry #2.
5. DOGM requested that Ideal Basic submit calculations demonstrating that the "drain" in the filled ephemeral drainage is capable of passing the 100 year-24 hour precipitation event runoff.
6. DOGM suggested that Ideal Basic patch any berms that have been breached using silt fences, straw bales, rock gabions or other measures. DOGM also stated it would send literature to Ideal Basic concerning the use of these measures.
7. Ideal Basic indicated they would request a variance for sediment control measures due to lack of space. DOGM indicated that lack of space would probably not be sufficient to grant a variance and that Ideal Basic should consider implementing a plan of alternative sediment control measures.
8. Ideal Basic requested that Susan Linner contact them on plant survey guidelines.
9. DOGM stated they would send a letter to Ideal Basic recapping the conversations and sending the requested literature.

jvb

cc: L. Braxton
D. Darby
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